Education of the Visually Handicapped

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COVER: Independence Day for Disabled People Rally on Capitol Hill, May 7, 1981. Photograph by Lisa D. Williams.

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Providing Educational Materials under the Act to Promote the Education of the Blind

CARSON Y. NOLAN

ABSTRACT: The author provides a historical perspective on the role of the American Printing House for the Blind in the production of materials for visually handicapped students.

A good picture of initial formal efforts to provide educational materials for the blind can be gleaned from early reports of the American Association of Instructors of the Blind. Early efforts to provide materials were concentrated almost exclusively on provision of tactile books. During this time, progress was severely impaired by lack of standardization of the tactile codes in which books were printed. Initially, individual schools attempted to produce their own books. Perkins School for the Blind had a press as early as 1835. However, the process of individual schools producing and exchanging books was inefficient, and the need for a more centralized effort became apparent.

To this end, several states cooperated to establish the American Printing House for the Blind (APH) in 1858. This project, located in Louisville, Kentucky, was disrupted by the Civil War and did not actually publish its first tactile book until 1866. However, by the early 1870s the Printing House was fully operational on a national scale. Its future as a permanent source of educational materials was assured when, in consequence of petitions by American Association of Instructors of the Blind, Congress passed in 1879 the Act to Promote the Education of the Blind.

Provisions of the Act

The Act to Promote the Education of the Blind was the first law enacted in the long history of federal legislative efforts to support education of the handicapped. The Act provided $10,000 to APH *to be expended by the Trustees . . . each year in manufacturing and furnishing embossed books for the blind and tangible apparatus for their instruction*. Such books and tangible apparatus were to be distributed free among all public institutions for blind students in the United States. The law provided that *each institution shall receive, in books and apparatus, its portion of (the total appropriation) as shown by the ratio between the number of pupils in that institution . . . and the total number of pupils in all public institutions for education of the blind*. The total number of pupils in the United States was *to be authenticated in such a manner and as often as the trustees of the said American Printing House shall require*.

Other important provisions of the Act were that *no part of the income . . . shall be expended for buildings*; that materials be provided by the American Printing House on a no profit basis; and that *superintendents of the various public institutions for educators of the blind . . . shall each, ex officio, be a member of the Board of Trustees of the American Printing House*.

The Act, whose purpose was to provide a national central source of materials not feasible for commercial production, stipulated that all materials provided must be manufactured in whole or in part by the American Printing House.

Eligibility for Materials

Originally, only legally blind students in residential schools were eligible to receive materials under the Act. For example, in 1890, 3,173 such pupils were served with a per capita allocation of $3.15. In 1906, upon ruling by the Solicitor General, rehabilitation agencies became eligible for free materials through the Act.

In 1912, the Solicitor General ruled that organized public day school classes should be included. As more programs for education for blind students were established in large cities, these were included among the eligible.

The continuing shift of enrollment of blind pupils from residential to public school programs resulted, in 1956, in an amendment which extended the eligibility for quota materials to all blind children enrolled in public day school programs. Subsequently, the Charter of the American Printing House was amended to include *the chief state school officer, or his designee*, among the ex officio trustees of the Printing House. Most recently (1970) the Act was changed to include blind children in private nonprofit institutions.

Evolution of Funding

The adoption of the Act by Congress provided a perpetual trust fund of $250,000 to be invested in United States interest-bearing bonds, the income from which, at four percent, would amount to $10,000 annually. In 1906, anticipating that the

original $250,000 bond issue would soon mature, Congress changed the authorization act to a direct $10,000 appropriation to the Printing House, to be made in perpetuity. Since the amount provided ($10,000) was fixed by law, it was necessary from time to time to amend the law to increase this amount. In 1919 the amount authorized was increased to $50,000, in 1927 to $75,000, in 1937 to $125,000, in 1952 to $260,000, and in 1956 to $410,000. Finally, in 1961, the law was amended to provide *such sum as the Congress may determine*. Thereafter, the amount of the appropriation was justified annually, reaching $4,014,000 in 1980. This justification is based on factors such as population increase, inflationary pressures, and the advent of new special needs for materials. The appropriation equalled about $122.00 per pupil for fiscal year 1980.

Product Evolution Under the Act

Embossed Materials

Until 1920, almost all productive efforts at APH were concentrated on embossed textbooks. This concentration was caused by the confusion and uncertainty among educators of blind students as to the best system of embossed printing. In 1879, embossed textbooks were available in Boston Line Letter and New York Point, with music available only in Point. In 1882, on vote of the trustees, it was agreed that fifty percent of texts be published in New York Point.

In 1893, eight books were published in Modified Braille with plates obtained from the Missouri School for the Blind. Twenty-seven additional books were published in this form the following year.

In 1905, books were first published in American Braille using plates from the schools in Philadelphia, St. Louis, and Lansing. By 1910, the trustees had agreed that forty percent of APH textbooks be printed in American Braille.

The result of this history was that APH was required to inventory textbooks printed in four different tactile codes. Consequently, it was with great justification that the Board of Trustees, acting in conjunction with other groups of and for the visually handicapped, in 1917 passed a resolution in favor of one uniform type for blind students. In 1918, Revised Braille Grade 1½ was adopted for all textbooks for the blind creating a need for a whole new catalog of textbooks.

In 1932, Standard English Braille Grade 2 was adopted for the entire English-speaking world, and the demand for books in the more highly contracted system created a new need for textbooks. It should be noted, however, that there were about ten years when, at the insistence of the educators, APH was required to emboss books in English Grade 1½ for the first six grades and books for high school students in partially contracted Braille Grade 2.

In 1879, APH provided fifty-four titles of texts; in 1979 this number exceeded 1500. Beginning in 1879, the Printing House, in cooperation with the New York Institute for the Blind, provided a wide variety of music in New York Point. In 1929, the first uniform code for braille music notation was created. The code was not finalized

until 1956 with the agreement throughout the world on what became the *Revised International Manual of Braille Music Notation*. This resulted in a great increase in music available from the Printing House.

Prior to 1927, all books had been embossed on one side of the page only. That year a magazine called *Our Own* and a pocket dictionary were published in interpointed braille. Subsequently, in 1931 it was decided that books for grades six and above would be published in interpointed form. Now all books are interpointed.

Reader's Digest was the forerunner of a number of periodicals published for students. *The Weekly Readers, Current Events*, and *Current Science* are among other periodicals published.

Publication of Educational Tests was initiated in 1924. In 1964, computer translation of print to braille was first applied in publication of braille textbooks.

Large Type Materials

In 1946, federal authorities ruled that large type books could be supplied under the Act, but only to legally blind students. In 1947, APH acquired equipment and printed three experimental large type books. Since that time, long-run large type production of textbooks has paralleled that for braille so that today over 1500 titles of large type texts appear in the APH catalogue.

In 1968, short-run large type publishing was initiated. Under this system, APH provides a single copy of a large type book on order, at the same time printing a small number (five to ten) of additional copies for inventory. This operation has grown to be the largest short-run printing facility in the world. In 1979, over 900 titles were printed using the short-run process.

Recorded Materials

Since 1936, APH has had the capability to produce recorded materials. However, there has never been a strong demand for a wide array of recorded textbooks, and experimental textbooks produced in recorded form have not sold. Since the advent of cassettes and APH acquisition of this technology a variety of special materials has been produced in this form. Included are such materials as those to improve listening skills, to teach typing, to provide vocational information, and to teach science and social studies. A recorded edition of *The World Book Encyclopedia* was published on cassettes in 1980.

Tangible Apparatus

The tangible apparatus authorized under the Act has taken the form of educational tools and educational aids to learning. Provision of tangible apparatus was not seriously undertaken until the 1930s, probably because of the heavy production burden imposed by the necessity to publish books in a variety of changing tactile codes. The 1880 APH catalogue mentions dissected maps of the United States and Europe and such things as

writing cards and spelling frames. During the period 1890-94, McElroy's Point Writing Machine at $15.00 made a brief appearance.

In 1921, at an informal conference of the trustees of the American Printing House held at the Vinton, Iowa meeting of the American Association of Workers for the Blind, it was agreed that, when funds became available, the Printing House would become a distributor of apparatus. However, it was not until 1927 that seven types of braille slates were advertised and 2,421 sold. Arithmetic slates and the Beetz Notation Graph were added to maps and braille slates in the 1930s. In 1940, the first APH braillewriter was produced.

In the 1950s the Department of Educational Research was founded, and APH began to enter very actively into educational research and development and manufacture of the materials. By the end of the sixties, APH had produced about seventy-seven tangible items including a wide variety of writing tools and materials, several arithmetic aids, a wide range of maps and globes, and aids for music.

In the late sixties, using funds obtained from the Bureau for Education of the Handicapped, U.S. Office of Education, APH was able to increase significantly its educational materials development. Within the space of nine years, over 120 teaching aids and tools were developed and produced. These projects ranged over such instructional areas as mathematics, science, social studies, sensory-motor development, language development, low vision training, multi-handicapped, and educational measures. Using its own funds, APH developed such tools as the adapted Sony 105 open reel tape player, several generations of cassette player-recorders, a variable speech control, and the APH Student Speech Plus Calculator.

APH Support of the Act

Buildings, Capital Equipment, and Inventory

In 1879, APH was housed in the basement of the Kentucky School for the Blind, had six to eight full-time employees, and served 2,180 blind students with a per capita allotment of $1.51. In 1980, APH was housed in its own plant of over 250,000 square feet of space, had 620 employees, and served 33,061 blind students with a per capita allocation of $122.00.

The Act specifically prohibited any use of its funds for *the erection or leasing of buildings*. In addition, it stated that *the price put on each article . . . shall be only its actual cost*. These restrictions of the Act provided no capital to underwrite the cost of its execution. Consequently, funds for this purpose have been obtained from other sources.

The APH report for 1879 does not give a figure for fixed assets. However, at that time these were almost certainly restricted to equipment necessary for printing. In 1883, APH acquired its own land and first building. The State of Kentucky provided $20,000 for this purpose. In 1922, the State provided $25,000 for a building addition. All other funds for buildings and capital equipment used to provide materials under the Act have been provided through the Printing House's own fund raising efforts.

Today the fixed assets of APH, which include buildings, machinery, office equipment, and land, have an undepreciated value of $5,440,000. This amount represents only part of APH expenditures to execute the Act since several building additions and much capital equipment have been discarded over the years.

Records of 1879 do not reveal the value of the finished inventory of educational materials. However, it is estimated that this could not have been much in excess of $5,000. No provisions are made under the Act for support of a finished goods inventory to ensure timely delivery of materials furnished, and APH assumes most of this burden. Today, the value of this inventory exceeds $3,000,000.

A Special Service

Conscious of its inability to provide under the Act all textbooks required to educate blind students, in 1958 APH set up its Central Catalog of Volunteer Produced Textbooks. This catalog, which presently contains over 100,000 titles, provides educators nationwide access to the single copies of books produced by volunteers in braille, large type, and recorded form. Reference service is provided through annual national distribution of a print form of the catalog and through daily response to inquiries by mail and telephone. During the period 1966-74, partial support for this service was received from the Bureau of Education for the Handicapped.

A by-product of the catalog is a service that enables APH to supply copies of hand-transcribed books in braille to schools under the Act. This very useful service significantly magnifies the outcome of the efforts of volunteer braille transcribers throughout our nation.

From the above, it is apparent that, over the years, the Printing House has utilized millions of dollars of its own money to support its administration of the funds provided under the Act.

Summary

This short account tells the story of efforts made by the Printing House to supply special educational materials for blind students over the last century. It reveals the efforts of educators first to form and then mold a resource of materials not available elsewhere. APH history mirrors the course of education of the visually handicapped in this country and reflects much of the associated conflict. It presents a picture of constant evolution and continuing progress in meeting needs of the field. If the account slights the role of APH as an innovator and leader in development of new materials and techniques, it slights equally the cooperative contributions of hundreds of administrators, teachers, and others in education of blind students who helped make such progress possible.

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